

# FUSES

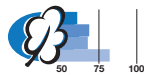
Resettable fuses

# PFMD

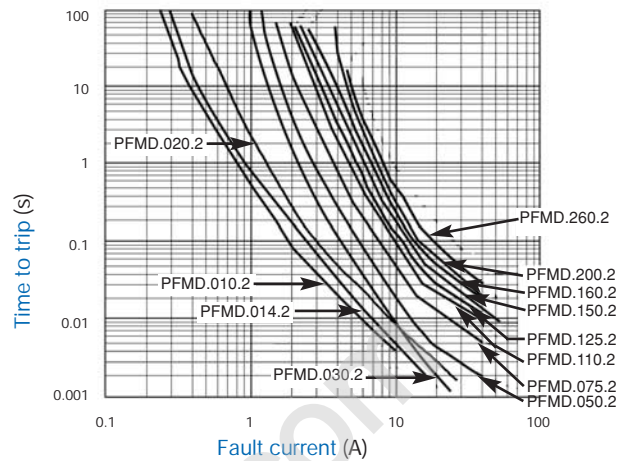
## Surface Mount PTC-Fuses Type PFMD

3,4 x 4,7 mm  
fast tripping  
Packaged per EIA 481-1

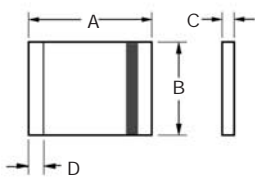
Agency recognition:  
UL, CSA, TÜV



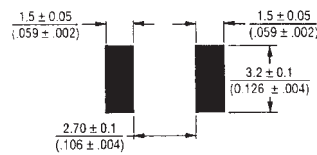
Typical Time to Trip at 23 °C



### Dimensions



### Solder pad layouts

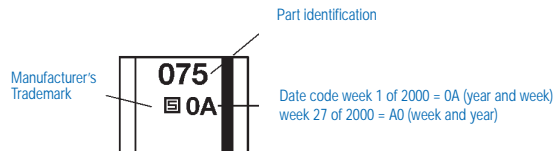


### Applications

- Hard disk drives
- PC motherboards
- PC peripherals
- Point-of-sale (POS) equipment
- PCMCIA cards
- General Electronics

### Typical Part Marking

Layout may vary



### Environmental Characteristics

|   |  |                           |
|---|--|---------------------------|
| Operating/Storage Temperature                       | -40 °C to / bis +85 °C                   |                           |
| Maximum Device Surface Temperature in Tripped State | 125 °C                                   |                           |
| Passive Aging                                       | +85 °C, 1000 hours                       | ± 5% typ. resist. change  |
| Humidity Aging                                      | +85 °C, 85% R.H. 1000 hours              | ± 5% typ. resist. change  |
| Thermal Shock                                       | +85 °C to/bis -40 °C, 20 times           | ± 10% typ. resist. change |
| Solvent Resistance                                  | MIL-STD-202, Method 215                  | No change                 |
| Vibration   | MIL-STD-883C, Method 2007.1, Condition A | No change                 |

### Test Procedures And Requirements For Model PFMD Series

| Test            | Test Conditions                         | Accept/Reject Criteria                   |
|-----------------|---|--|
| Visual/Mech.    | Verify dimensions and materials         | Per PF physical description              |
| Resistance      | In still air @ 23 °C                    | $R_{min} \leq R \leq R_{max}$            |
| Time to Trip    | At specified current, $V_{max}$ , 23 °C | $T \leq \text{max. time to trip}$ (sec.) |
| Hold Current    | 30 min. at $I_{hold}$                   | No trip                                  |
| Trip Cycle Life | $V_{max}$ , $I_{max}$ , 100 cycles      | No arcing or burning                     |
| Trip Endurance  | $V_{max}$ , 48 hours                    | No arcing or burning                     |

Electrical Characteristics

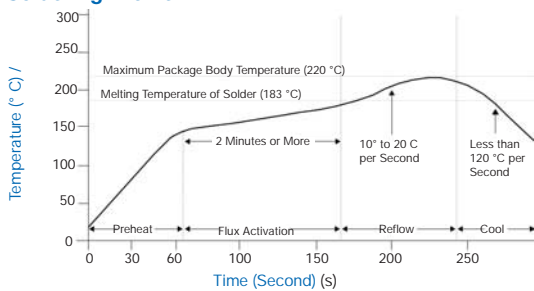
| Type          | I <sub>max</sub><br>A | V <sub>max</sub><br>V | I <sub>hold</sub><br>Amperes at 23 °C | I <sub>trip</sub><br>Amperes at 23 °C | Initial Resistance |                     | 1 Hour (R1) Post-Reflow Resistance |          | Max. Time to trip at 23 °C/8A |         | Tripped Power Dissipation<br>Watts at 23 °C |
|---------------|-----------------------|-----------------------|---------------------------------------|---------------------------------------|--------------------|---------------------|------------------------------------|----------|-------------------------------|---------|---|
|               |                       |                       |                                       |                                       | Ohms at 23 °C      |                     |                                    |          | Amperes                       | Seconds |   |
|               |                       |                       |                                       |                                       | R <sub>min.</sub>  | R <sub>1 max.</sub> | at 23 °C                           | at 23 °C |                               |         |   |
| PFMD.010.2    | 40                    | 60.0                  | 0.10                                  | 0.30                                  | 0.70               | 15.00               | 0.5                                | 1.5      | 1.0                           |         |   |
| PFMD.014.2    | 40                    | 60.0                  | 0.14                                  | 0.34                                  | 0.40               | 6.50                | 1.5                                | 0.15     | 1.0                           |         |   |
| PFMD.020.2    | 80                    | 30.0                  | 0.20                                  | 0.40                                  | 0.40               | 6.00                | 6.0                                | 0.06     | 1.0                           |         |   |
| PFMD.030.2    | 100                   | 30.0                  | 0.30                                  | 0.60                                  | 0.30               | 3.00                | 8.0                                | 0.10     | 1.2                           |         |   |
| PFMD.050.2    | 100                   | 15.0                  | 0.50                                  | 1.00                                  | 0.15               | 1.00                | 8.0                                | 0.15     | 1.2                           |         |   |
| PFMD.075.2    | 100                   | 13.2                  | 0.75                                  | 1.50                                  | 0.11               | 0.45                | 8.0                                | 0.20     | 1.2                           |         |   |
| PFMD.075.24.2 | 100                   | 24.0                  | 0.75                                  | 1.50                                  | 0.11               | 0.45                | 8.0                                | 0.20     | 1.2                           |         |   |
| PFMD.110.2    | 100                   | 6.0                   | 1.10                                  | 2.20                                  | 0.04               | 0.21                | 8.0                                | 0.30     | 1.2                           |         |   |
| PFMD.110.16.2 | 100                   | 16.0                  | 1.10                                  | 2.20                                  | 0.04               | 0.21                | 8.0                                | 0.30     | 1.2                           |         |   |
| PFMD.125.2    | 100                   | 6.0                   | 1.25                                  | 2.50                                  | 0.035              | 0.14                | 8.0                                | 0.4      | 1.5                           |         |   |
| PFMD.150.2    | 100                   | 6.0                   | 1.50                                  | 3.00                                  | 0.03               | 0.12                | 8.0                                | 0.5      | 1.5                           |         |   |
| PFMD.160.2    | 100                   | 8.0                   | 1.60                                  | 2.80                                  | 0.035              | 0.10                | 8.0                                | 2.0      | 1.5                           |         |   |
| PFMD.200.2    | 100                   | 6.0                   | 2.00                                  | 4.00                                  | 0.020              | 0.10                | 8.0                                | 3.0      | 1.5                           |         |   |
| PFMD.260.2    | 100                   | 6.0                   | 2.60                                  | 5.20                                  | 0.015              | 0.08                | 8.0                                | 5.0      | 1.5                           |         |   |

Dimensions

| Model         | A               |                 | B               |                 | C               |                 | D               |
|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|               | min.            | max.            | min.            | max.            | min.            | max.            | min.            |
| PFMD.010.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.56<br>(0.022) | 0.81<br>(0.032) | 0.30<br>(0.012) |
| PFMD.014.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.56<br>(0.022) | 0.81<br>(0.032) | 0.30<br>(0.012) |
| PFMD.020.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.56<br>(0.022) | 0.81<br>(0.032) | 0.30<br>(0.012) |
| PFMD.030.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.56<br>(0.022) | 0.81<br>(0.032) | 0.30<br>(0.012) |
| PFMD.050.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.38<br>(0.015) | 0.62<br>(0.024) | 0.30<br>(0.012) |
| PFMD.075.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.38<br>(0.015) | 0.62<br>(0.024) | 0.30<br>(0.012) |
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| PFMD.125.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.30<br>(0.012) | 0.48<br>(0.019) | 0.30<br>(0.012) |
| PFMD.150.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.30<br>(0.012) | 0.48<br>(0.019) | 0.30<br>(0.012) |
| PFMD.160.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.30<br>(0.012) | 0.48<br>(0.019) | 0.30<br>(0.012) |
| PFMD.200.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.30<br>(0.012) | 0.48<br>(0.019) | 0.30<br>(0.012) |
| PFMD.260.2    | 4.37<br>(0.172) | 4.73<br>(0.186) | 3.07<br>(0.121) | 3.41<br>(0.134) | 0.25<br>(0.010) | 0.48<br>(0.019) | 0.30<br>(0.012) |

Packaging: 2000 pcs. per reel

Soldering Profile



Note PFMD  
• models can be wave soldered and reworked.

Dimensions in mm/inches

How To Order

PTC-Fuse / **PF MD .xxx .x**  
 Style MD = 4,5 mm Surface Mount Component  
 Hold Current, I<sub>hold</sub>  
 010-260 (0,10 A - 2,60 A)  
 Packaging  
 Packaged per EIA 481-1  
 2 = Tape and reel /

Thermal Derating Chart-I<sub>hold</sub> / I<sub>trip</sub> (Amps)

| Type          | Ambient Operating Temperature |             |             |             |             |             |             |             |             |
|---------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|               | -40 °C                        | -20 °C      | 0 °C        | 23 °C       | 40 °C       | 50 °C       | 60 °C       | 70 °C       | 85 °C       |
| PFMD.010.2    | 0.16 / 0.32                   | 0.14 / 0.28 | 0.12 / 0.24 | 0.11 / 0.22 | 0.08 / 0.16 | 0.07 / 0.14 | 0.06 / 0.12 | 0.05 / 0.10 | 0.03 / 0.06 |
| PFMD.014.2    | 0.23 / 0.52                   | 0.19 / 0.45 | 0.17 / 0.40 | 0.14 / 0.34 | 0.12 / 0.29 | 0.10 / 0.25 | 0.09 / 0.23 | 0.08 / 0.21 | 0.06 / 0.16 |
| PFMD.020.2    | 0.29 / 0.58                   | 0.26 / 0.52 | 0.23 / 0.46 | 0.20 / 0.40 | 0.17 / 0.34 | 0.15 / 0.30 | 0.14 / 0.28 | 0.12 / 0.24 | 0.10 / 0.20 |
| PFMD.030.2    | 0.44 / 0.88                   | 0.39 / 0.78 | 0.35 / 0.70 | 0.30 / 0.60 | 0.26 / 0.52 | 0.23 / 0.46 | 0.21 / 0.42 | 0.18 / 0.36 | 0.15 / 0.30 |
| PFMD.050.2    | 0.77 / 1.54                   | 0.68 / 1.36 | 0.59 / 1.18 | 0.50 / 1.00 | 0.44 / 0.88 | 0.40 / 0.80 | 0.37 / 0.74 | 0.33 / 0.66 | 0.29 / 0.58 |
| PFMD.075.2    | 1.15 / 2.30                   | 1.01 / 2.02 | 0.88 / 1.76 | 0.75 / 1.50 | 0.65 / 1.30 | 0.60 / 1.20 | 0.55 / 1.10 | 0.49 / 0.98 | 0.43 / 0.86 |
| PFMD.075.24.2 | 1.11 / 2.22                   | 1.00 / 2.00 | 0.85 / 1.70 | 0.75 / 1.50 | 0.67 / 1.34 | 0.61 / 1.22 | 0.52 / 1.06 | 0.50 / 1.00 | 0.42 / 0.84 |
| PFMD.110.2    | 1.59 / 3.18                   | 1.43 / 2.86 | 1.26 / 2.52 | 1.10 / 2.20 | 0.95 / 1.90 | 0.87 / 1.74 | 0.80 / 1.60 | 0.71 / 1.42 | 0.60 / 1.20 |
| PFMD.110.16.2 | 1.59 / 3.18                   | 1.43 / 2.86 | 1.26 / 2.52 | 1.10 / 2.20 | 0.95 / 1.90 | 0.87 / 1.74 | 0.80 / 1.60 | 0.71 / 1.42 | 0.60 / 1.20 |
| PFMD.125.2    | 1.80 / 3.61                   | 1.63 / 3.25 | 1.43 / 2.86 | 1.25 / 2.50 | 1.08 / 2.16 | 0.99 / 1.98 | 0.91 / 1.82 | 0.81 / 1.62 | 0.68 / 1.36 |
| PFMD.150.2    | 2.17 / 4.34                   | 1.95 / 3.90 | 1.72 / 3.44 | 1.50 / 3.00 | 1.30 / 2.59 | 1.18 / 2.37 | 1.09 / 2.18 | 0.97 / 1.94 | 0.82 / 1.64 |
| PFMD.160.2    | 2.30 / 5.00                   | 2.20 / 4.40 | 1.90 / 3.80 | 1.60 / 2.80 | 1.45 / 2.90 | 1.30 / 2.60 | 1.15 / 2.30 | 1.03 / 2.06 | 0.91 / 1.82 |
| PFMD.200.2    | 3.08 / 6.14                   | 2.71 / 5.39 | 2.35 / 4.62 | 2.00 / 4.01 | 1.80 / 3.61 | 1.60 / 3.19 | 1.50 / 2.98 | 1.07 / 2.12 | 0.80 / 1.58 |
| PFMD.260.2    | 4.00 / 7.98                   | 3.52 / 7.01 | 3.06 / 6.09 | 2.60 / 5.15 | 2.34 / 4.64 | 2.08 / 4.13 | 1.95 / 3.87 | 1.39 / 2.74 | 1.04 / 2.05 |